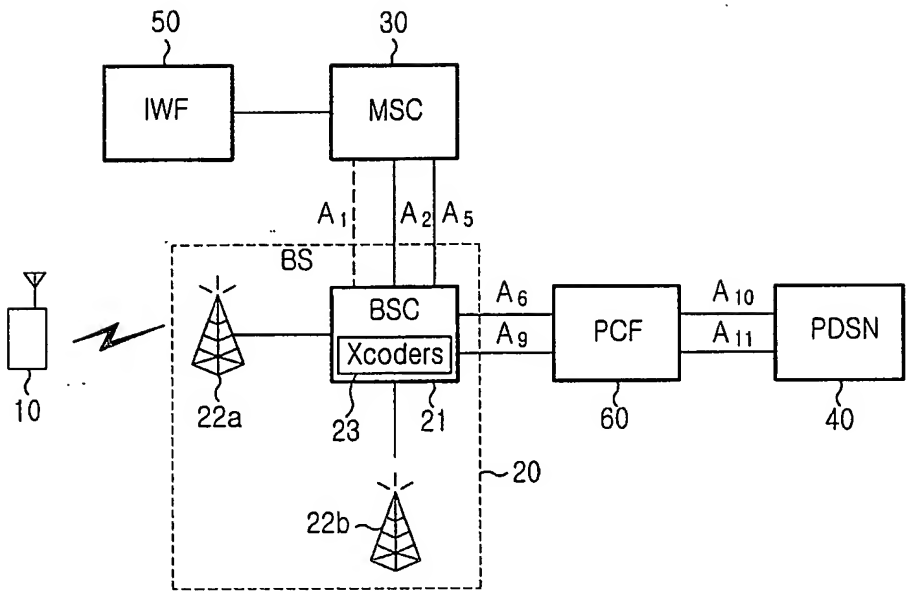
50
30
IWF
MSC
A1
A2
A5
BS
BSC
Xcoders
A6
A9
PCF
A10
A11
PDSN
10
22a
23
21
60
40
20
22b

FIG.1

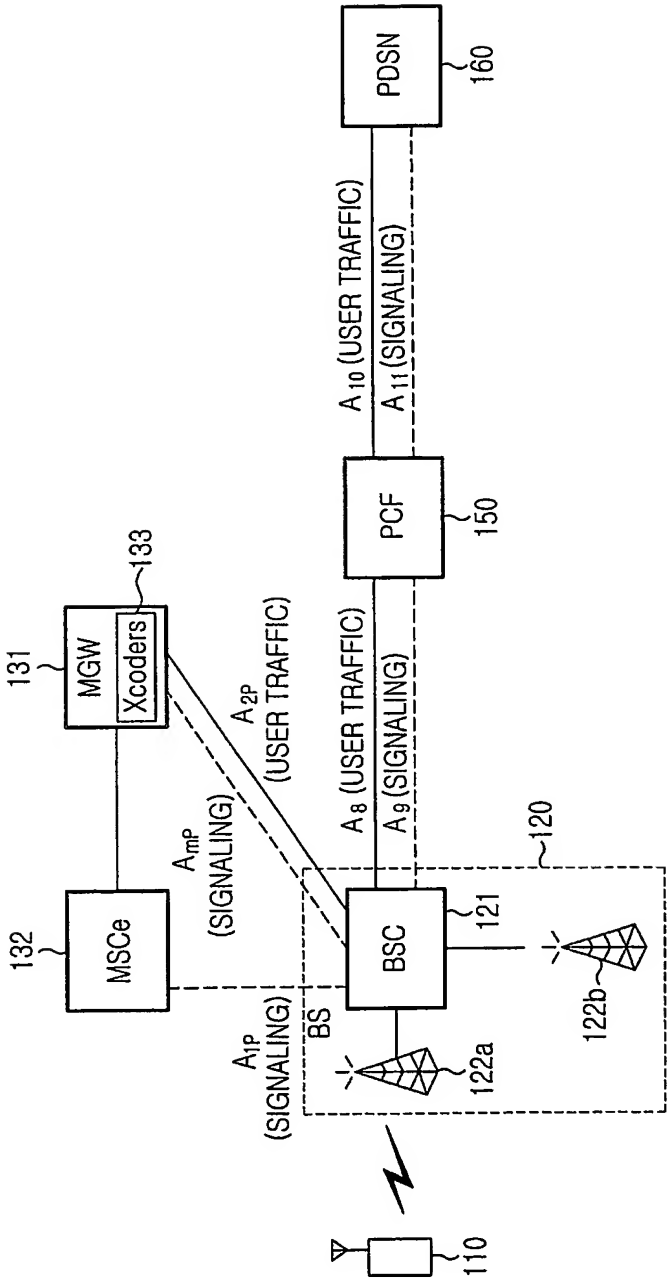
PDSN
160
A10 (USER TRAFFIC)
A11 (SIGNALING)
PCF
150
A8 (USER TRAFFIC)
A9 (SIGNALING)
120
BSC
121
BS
122a
122b
A1P (SIGNALING)
AmP (SIGNALING)
A2P (USER TRAFFIC)
131
MGW
Xcoders
133
132
MSCe
110

FIG.2

IOS A1p	IOS A1p	EVRC/SMV	EVRC/SMV	IOS Amp	IOS Amp
SUA	SCCP	FP	FP		
SCTP	M3UA	RTP*	GRE*		
	SCTP	UDP		SCTP	TCP/UDP
IP	IP	IP	IP	IP	IP
L2	L2	L2	L2	L2	L2
L1	L1	L1	L1	L1	L1
Case1	Case2	Case1	Case2	Case1	Case2
A1p interface		A2p interface		Amp interface	

FIG.3

Information Element	Element Direction	Type
Message Type	BSC -> MGW	M
Reverse Layer 3 Data	BSC -> MGW	O
Message CRC	BSC -> MGW	M

FIG.4A

7	6	5	4	3	2	1	0	Octet
Codec_Indicator			Data-In clusion	FSN				1
Required Reduced Frame Number		Rate_ Reduction _Required	BB Indicator	Rate Reduction Time Interval				2
Scaling			Packet Arrival Time Error					3
Frame Content								4
Reverse Link Information + Layer 3 fill								Variable
Length								n
Signaling Message / Secondary Traffic								Variable

FIG.4B

Information Element	Element Direction	Type
Message Type	MGW -> BSC	M
Reverse Layer 3 Data	MGW -> BSC	O
Message CRC	MGW -> BSC	M

FIG.5A

7	6	5	4	3	2	1	0	Octet
Codec_Indicator			Rate_ Reduction AcK	FSN				1
Scaling	Packet Arrival Time Error							3
Frame Content								5
Forward Link Information + Layer 3 fill								Variable

FIG.5B

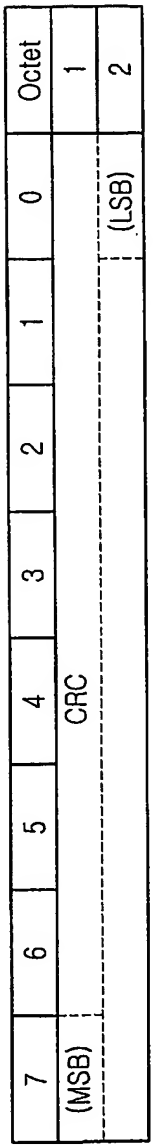

FIG.6

Information Element	Element Direction	Type	
Message Type(Amp)	MGW -> BSC	M	
Call Connection Reference	MGW -> BSC	O	R
Mobile Identity(IMSI)	MGW -> BSC	O	R
Mobile Identity(ESN)	MGW -> BSC	O	C
A2p Bearer ID	MGW -> BSC	O	C
Rate Reduction Information	MGW -> BSC	O	R

FIG.7A

Information Element	Element Direction	Type	
Message Type(Amp)	MGW -> BSC	M	
Call Connection Reference	MGW -> BSC	O	R
Mobile Identity(IMSI)	MGW -> BSC	O	R
Mobile Identity(ESN)	MGW -> BSC	O	C
A2p Bearer ID	MGW -> BSC	O	C
Cause	MGW -> BSC	O	R

FIG.7B

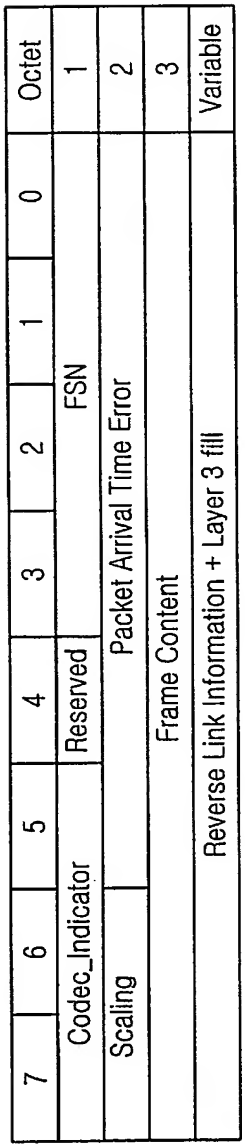
7
6
5
4
3
2
1
0
Octet
Codec_Indicator
Reserved
FSN
1
Scaling
Packet Arrival Time Error
2
Frame Content
3
Reverse Link Information + Layer 3 fill
Variable

FIG.8A

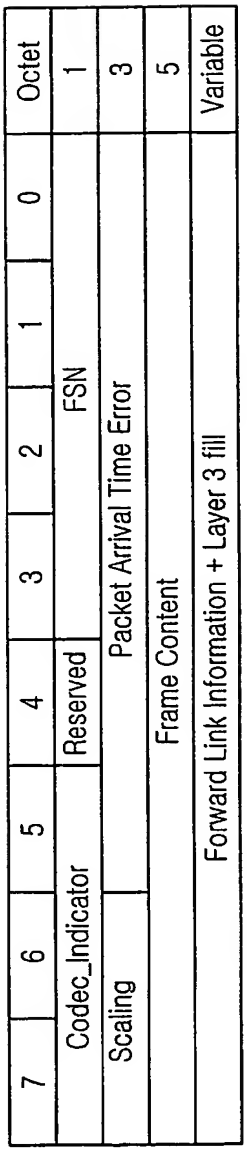
7 6 5 4 3 2 1 0 Octet
Codec_Indicator Reserved FSN 1
Scaling Packet Arrival Time Error 3
Frame Content 5
Forward Link Information + Layer 3 fill Variable

FIG.8B

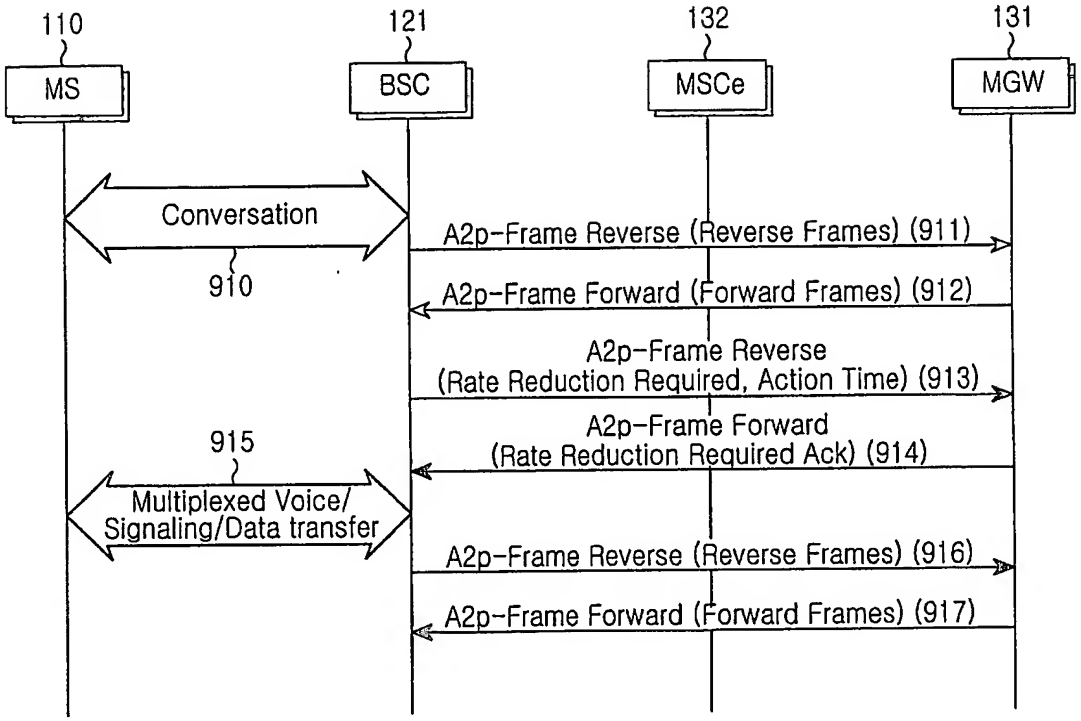
110
121
132
131
MS
BSC
MSCe
MGW
Conversation
910
A2p-Frame Reverse (Reverse Frames) (911)
A2p-Frame Forward (Forward Frames) (912)
A2p-Frame Reverse
(Rate Reduction Required, Action Time) (913)
A2p-Frame Forward
(Rate Reduction Required Ack) (914)
915
Multiplexed Voice/
Signaling/Data transfer
A2p-Frame Reverse (Reverse Frames) (916)
A2p-Frame Forward (Forward Frames) (917)

FIG.9

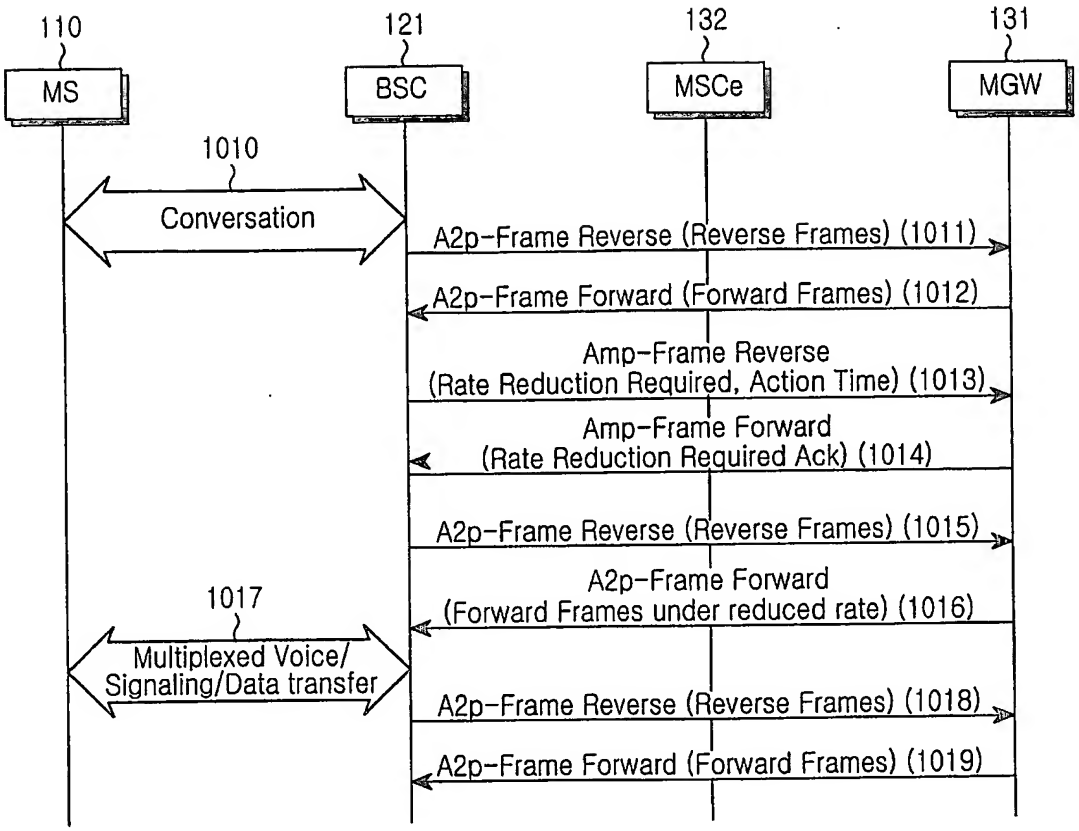
110
MS
121
BSC
132
MSCe
131
MGW
1010
Conversation
A2p-Frame Reverse (Reverse Frames) (1011)
A2p-Frame Forward (Forward Frames) (1012)
Amp-Frame Reverse
(Rate Reduction Required, Action Time) (1013)
Amp-Frame Forward
(Rate Reduction Required Ack) (1014)
A2p-Frame Reverse (Reverse Frames) (1015)
A2p-Frame Forward
(Forward Frames under reduced rate) (1016)
1017
Multiplexed Voice/
Signaling/Data transfer
A2p-Frame Reverse (Reverse Frames) (1018)
A2p-Frame Forward (Forward Frames) (1019)

FIG.10

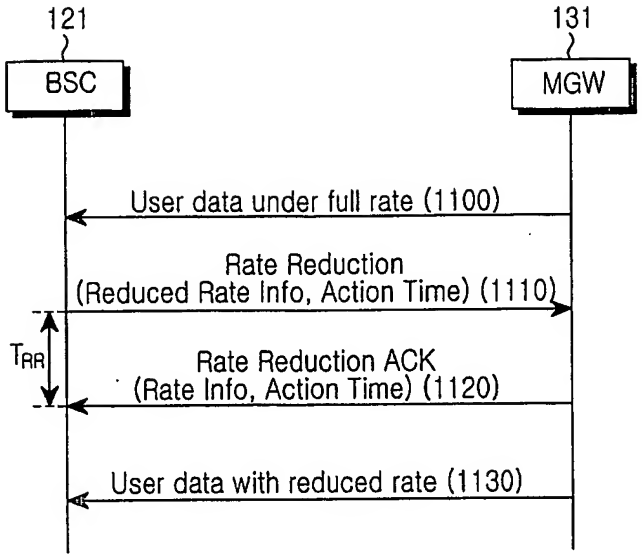
121
131
BSC
MGW
User data under full rate (1100)
Rate Reduction
(Reduced Rate Info, Action Time) (1110)
TRR
Rate Reduction ACK
(Rate Info, Action Time) (1120)
User data with reduced rate (1130)

FIG.11